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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/616,564	07/10/2003	Jay P. Gore	3220-73090	2789

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EXAMINER	
BOOSALIS, FANI POLYZOS	
ART UNIT	PAPER NUMBER
2884	

DATE MAILED: 07/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/616,564	GORE ET AL.	
	Examiner	Art Unit	
	Faye Boosalis	2884	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 April 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *17-21, 23-25* is/are allowed.

6)☒ Claim(s) *1-16,22 and 26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10 July 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Comment on Submissions

1. This communication is responsive to submissions 18 April 2006.

Response to Arguments

2. Applicant's arguments with respect to claims 1-25 have been considered but are moot in view of the new ground(s) of rejection.

3. Applicant's arguments, see pages 9-11, filed 18 April 2006, with respect to the rejection(s) of claim(s) 1-2, 7-8, 11-12, 16-20, 22-23 and 25 under 35 U.S.C. 102(b) and claim(s) 3-6, 9-10 and 13-15 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Windham et al (US 6,587,575 B1).

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-2, 22 and 26 are rejected under 35 U.S.C. 102(e) as being anticipated by Windham et al (US 6,587,575 B1).

Regarding claim 1, Windham discloses a method of measuring an amount of an organic substance (i.e. contamination) contained within a food product (i.e. meat), the organic substance having an infrared absorption spectrum which includes a set (n) of infrared absorption bands wherein each of the infrared absorption bands substantially corresponds to a wavelength band defined by a range of wavelengths of the infrared absorption spectrum, the method comprising: (a) detecting the intensity of infrared electromagnetic radiation influence by the organic substance (col. 27, lines 52-56) in ranges of wavelengths corresponding to each of a subset of the (n) wavelength bands (col. 27, lines 56-58); (b) generating an electrical signal in response to detecting the intensity of infrared electromagnetic radiation influence by the organic substance in ranges of wavelengths corresponding to each of the subset of the (n) wavelength bands (col. 28, lines 26-30); (c) processing the electrical signals with a quantification algorithm so as to provide a measurement of the amount of the organic substance contained within the food product (col. 27, lines 59-67).

Regarding claim 2, Windham discloses the quantitative algorithm includes diving a first wavelength band integrated absorbance value by a reference wavelength band integrated absorbance value (col. 27, lines 59-67).

Regarding claim 22, Windham discloses a method of measuring an amount of an organic substance (i.e. contamination) contained within a food product (i.e. meat), the organic substance having an infrared absorption spectrum which includes a set (n) of infrared absorption bands, the method comprising: illuminating the food product with infrared electromagnetic radiation

from an IR source (2) (col. 7, lines 1-3), passing infrared electromagnetic radiation influenced by the organic substance through a filter so that only electromagnetic radiation in ranges of wavelengths corresponding to a subset of the (n) infrared absorption bands is allowed to pass to a detector (col. 11, lines 46-58); detecting the intensity of infrared electromagnetic radiation passing through the filter to provide electric signals corresponding to each of the subset of the (n) wavelength bands (col. 27, lines 56-58); and processing the electrical signals with a quantification algorithm so as to provide a measurement of the amount of organic substance contained within the food product (col. 27, lines 59-67).

Regarding claim 26, Windham discloses an apparatus for measuring an amount of an organic substance (i.e. contamination) contained within a food product (i.e. meat), the organic substance having an infrared absorption spectrum which includes a set (n) of infrared absorption bands wherein each of the infrared absorption bands substantially corresponds to a wavelength band defined by a range of wavelengths of the infrared absorption spectrum, the apparatus comprising: a detector (CCD) operable to detect the intensity of infrared electromagnetic radiation influence by the organic substance (col. 27, lines 52-56) in ranges of wavelengths corresponding to each of a subset of (n) wavelength bands (col. 28, lines 26-30) to provide an electrical signal corresponding to each of the subset of (n) wavelength bands; and a processor (9) operable to process electrical signals with a quantification algorithm so as to

provide a measurement of the amount of organic substance contained within the food product (col. 27, lines 59-67).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Windham et al (US 6,587,575 B1) as applied to claim 1 above, and further in view of *Passaloglou-Emmanouillidou ("A comparative study of UV spectrophotometric methods for detection of olive oil adulteration by refined oils", Vol. 191).*

Regarding claims 3 and 5, Windham discloses a method of measuring an amount of an organic substance (i.e. contamination) contained within a food product (i.e. meat), the organic substance having an infrared absorption spectrum which includes a set (n) of infrared absorption bands wherein each of the infrared absorption bands substantially corresponds to a wavelength band defined by a range of wavelengths of the infrared absorption spectrum, the method comprising: (a) detecting the intensity of infrared electromagnetic radiation influence by the organic substance (col. 27, lines 52-56) in ranges of wavelengths corresponding to each of a subset of the (n) wavelength bands (col. 27, lines 56-58); (b) generating an electrical signal in response to detecting the

intensity of infrared electromagnetic radiation influence by the organic substance in ranges of wavelengths corresponding to each of the subset of the (n) wavelength bands (col. 28, lines 26-30); (c) processing the electrical signals with a quantification algorithm so as to provide a measurement of the amount of the organic substance contained within the food product (col. 27, lines 59-67). Windham does not disclose of detecting the transmittance of about 905 – 930 cm ^-1 wavelength band of infrared electromagnetic radiation being about 880 – 890 cm ^-1 wavelength band of infrared electromagnetic radiation. *Passaloglou-Emmanouillidou* discloses detecting the intensity of about a 905 – 930 cm ^-1 wavelength band of infrared electromagnetic radiation being about 880 – 890 cm ^-1 wavelength band of infrared electromagnetic radiation (See Generally Figs. 1A,B). Since the transmittance in this wavelength band is effective for the determination of an organic substance such as; olive oil, as described by *Passaloglou-Emmanouillidou,* it would have been obvious to one skilled in the art to modify the method suggested by Clarke to comprise of the wavelength band as disclosed supra by *Passaloglou-Emmanouillidou* to allow for a more versatile apparatus.

Regarding claims 4 and 6, *Passaloglou-Emmanouillidou* discloses detecting the intensity of about a 2905 – 2945 cm ^-1 wavelength band of infrared electromagnetic radiation being about 2840 – 2870 cm ^-1 wavelength band of infrared electromagnetic radiation (See Generally Fig. 1). Since the transmittance in this wavelength band is effective for the determination of an organic substance such as; olive oil, as described by *Passaloglou-*

Emmanouillidou, it would have been obvious to one skilled in the art to modify the method suggested by Clarke to comprise of the wavelength band as disclosed supra by *Passaloglou-Emmanouillidou* to allow for a more versatile apparatus.

8. Claims 7-8 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Windham et al (US 6,587,575 B1) and further in view of *Clarke (US 5,239,180 A).*

Regarding claims 7 and 12, Windham discloses a method of measuring an amount of an organic substance (i.e. contamination) contained within a food product (i.e. meat), the organic substance having an infrared absorption spectrum which includes a set (n) of infrared absorption bands wherein each of the infrared absorption bands substantially corresponds to a wavelength band defined by a range of wavelengths of the infrared absorption spectrum, the method comprising: (a) detecting the intensity of infrared electromagnetic radiation influence by the organic substance (col. 27, lines 52-56) in ranges of wavelengths corresponding to each of a subset of the (n) wavelength bands (col. 27, lines 56-58); (b) generating an electrical signal in response to detecting the intensity of infrared electromagnetic radiation influence by the organic substance in ranges of wavelengths corresponding to each of the subset of the (n) wavelength bands (col. 28, lines 26-30); (c) processing the electrical signals with a quantification algorithm so as to provide a measurement of the amount of the organic substance contained within the food product (col. 27, lines 59-67). Windham does not disclose the organic substance being vegetable seed oil or

milk fat. Clark discloses method of measuring an amount of a food material, such as a vegetable seed oil and amount of milk fat (dairy product ingredient), (col. 1, lines 56-63) in a food product. Clark teaches food materials are analyzed by illumination at a plurality of discrete wavelengths. (As used herein, the term "food material" is intended to encompass and include, without limitation, meats, poultry, fish and other seafood, fruits, vegetables, cereals, grains and seeds, dairy products, and beverages as well as food extracts, ingredients, nutrients and/or additives). Measurements of the intensity of light reflected by the food material at such wavelengths are taken, and an analysis of reflection ratios for various wavelengths is performed. Changes in the reflection ratios can be correlated with the concentration of analytes in the sample and thereby used to determine the condition of the food material (e.g., oxidation, contamination, sugar content, ripeness, fermentation, degree of cooking, or other processing stages) (col. 1, lines 56-63). Therefore, it would be obvious to modify the method suggested by Windham, to include organic substance such as vegetable seed oil, as disclosed supra by Clark, to allow for a more versatile means of measuring organic substances in food products.

Regarding claim 8, Windham discloses the quantitative algorithm includes diving a first wavelength band integrated absorbance value by a reference wavelength band integrated absorbance value (col. 27, lines 59-67).

9. Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Windham et al (US 6,587,575 B1) and *Clarke (US 5,239,180 A)* as applied to claim 7 above, and further in view of *Passaloglou-Emmanouillidou ("A*

comparative study of UV spectrophotometric methods for detection of olive oil adulteration by refined oils", Vol. 191).

Regarding claims 9-10, Windham discloses a method of measuring an amount of an organic substance (i.e. contamination) contained within a food product (i.e. meat), the organic substance having an infrared absorption spectrum which includes a set (n) of infrared absorption bands wherein each of the infrared absorption bands substantially corresponds to a wavelength band defined by a range of wavelengths of the infrared absorption spectrum, the method comprising: (a) detecting the intensity of infrared electromagnetic radiation influence by the organic substance (col. 27, lines 52-56) in ranges of wavelengths corresponding to each of a subset of the (n) wavelength bands (col. 27, lines 56-58); (b) generating an electrical signal in response to detecting the intensity of infrared electromagnetic radiation influence by the organic substance in ranges of wavelengths corresponding to each of the subset of the (n) wavelength bands (col. 28, lines 26-30); (c) processing the electrical signals with a quantification algorithm so as to provide a measurement of the amount of the organic substance contained within the food product (col. 27, lines 59-67). Clark discloses method of measuring an amount of a food material, such as vegetable seed oil, in a food product (col. 1, lines 56-63). Neither Windham nor Clarke disclose detecting the transmittance of about 905 – 930 cm ^-1 wavelength band of infrared electromagnetic radiation being about 880 – 890 cm ^-1 wavelength band of infrared electromagnetic radiation. *Passaloglou-Emmanouillidou* discloses detecting the intensity of about a 905 – 930 cm ^-1 wavelength band of

infrared electromagnetic radiation being about 880 – 890 cm ^-1 wavelength band of infrared electromagnetic radiation and selecting infrared wavelength bands within a range of about 800-1000 cm^-1 (See Generally Figs. 1A,B). Since the transmittance in this wavelength band is effective for the determination of an organic substance such as; olive oil, as described by *Passaloglou-Emmanouillidou,* it would have been obvious to one skilled in the art to modify the method suggested by Clarke to comprise of the wavelength band as disclosed supra by *Passaloglou-Emmanouillidou* to allow for a more versatile apparatus.

Regarding claim 11, Clarke discloses the food product includes food material, which encompasses the food extract olive oil (col. 1, lines 59-63).

10. Claims 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Windham et al (US 6,587,575 B1) and Clarke (US 5,239,180 A) as applied to claim 12 above, and further in view of *Lefier et al ("Determination of Fat, Protein, and Lactose in Raw Milk by Fourier Transform Infrared Spectroscopy and by Analysis with a Conventional Filter-Based Milk Analyzer", 1996, Vol. 79).*

Regarding claims 13, Clarke discloses a method of measuring an amount of milk fat (dairy product ingredient) (col. 1, lines 56-63) in a food product. Neither Windham nor Clarke disclose of detecting the transmittance of about 2905 – 2945 cm^-1 wavelength band. *Lefier* discloses detecting the transmittance of about 2905 – 2945 cm^-1 wavelength band of infrared electromagnetic radiation (pg. 713 and col. 1). Lefier teaches the transmittance in this wavelength band is effective for the determination of milk fat. Therefore, it

would have been obvious to modify the method suggested by Clarke to include a detected transmittance wavelength band as disclosed supra by Lefier, to allow for a more versatile apparatus.

Regarding claim 14, *Lefier* discloses detecting the transmittance of about 2840 – 2870 cm^-1 wavelength band of infrared electromagnetic radiation (pg. 713 and col. 1).

Regarding claim 15, *Lefier* discloses the number of selected infrared wavelength bands of (a) are within a range defined by approximately 2800-3000 cm^-1 (pg. 713 and col. 1).

Regarding claim 16, Clarke discloses the food product includes dairy products and beverages (i.e. milk) (col. 1, liens 56-63).

Allowable Subject Matter

11. Claims 17, 23 and 25 are allowed.

12. The following is an examiner's statement of reasons for allowance:

Regarding independent claims 17, 23 and 25, the prior art does not disclose or fairly suggest a method of measuring a concentration of an organic substance contained within a food product, the organic substance having one or more reference wavelength bands wherein the organic substance does not absorb the infrared electromagnetic radiation in the one or more reference wavelength bands, the method comprising: detecting the intensity of infrared electromagnetic radiation influenced by the organic substance in ranges of wavelengths corresponding to each of a subset of the one or more reference wavelength bands.

The examiner notes that while it is known in the art a method of measuring an amount of an organic substance (i.e. contamination) contained within a food product (i.e. meat), the organic substance having an infrared absorption spectrum which includes a set (n) of infrared absorption bands wherein each of the infrared absorption bands substantially corresponds to a wavelength band defined by a range of wavelengths of the infrared absorption spectrum, the method comprising: (a) detecting the intensity of infrared electromagnetic radiation influence by the organic substance (see for example Windham et al -- US 6,587,575 B1-- col. 27, lines 52-56) in ranges of wavelengths corresponding to each of a subset of the (n) wavelength bands (see for example Windham et al --US 6,587,575 B1-- col. 27, lines 56-58); (b) generating an electrical signal in response to detecting the intensity of infrared electromagnetic radiation influence by the organic substance in ranges of wavelengths corresponding to each of the subset of the (n) wavelength bands (see for example Windham et al --US 6,587,575 B1-- col. 28, lines 26-30); (c) processing the electrical signals with a quantification algorithm so as to provide a measurement of the amount of the organic substance contained within the food product (see for example Windham et al --US 6,587,575 B1-- col. 27, lines 59-67), the prior art does not suggest one or more reference wavelength bands wherein the organic substance does not absorb.

The remaining claim 18-21, 24 are allowable based on there dependency.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Faye Boosalis whose telephone number is 571-272-2447. The examiner can normally be reached on Monday thru Friday from 7:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Porta can be reached on 571-272-2444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

15. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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